Claim 15 (amended). The [reagent] composition of claim 14, wherein said disulfide reducing agent is a phosphine.

Claim 16 (amended). The [reagent] composition of claim 15, wherein said phosphine is tris(carboxyethyl) phosphine.

Claim 19 (amended). A kit for use in a method for detecting and determining the amount of homocysteine in a sample, comprising in a packaged combination: a first reagent comprising [a protected] an alkylating reagent having a protected functional group said protected function group capable of reacting with a nucleophilic group of homocysteine [capable of chemically modifying homocysteine] to form modified homocysteine when said protected functional group is deprotected, a second reagent comprising an activating reagent capable of deprotecting said protected alkylating reagent, and a third reagent capable of specifically binding to said modified homocysteine, each in an amount sufficient to conduct at least one assay.

Claim 32 (amended). A method of determining the amount of homocysteine in a sample suspected of containing said homocysteine, comprising the steps of :

(a) bringing together in an aqueous medium:
    (1) said sample,
    (2) a first reagent comprising [a protected] an alkylating reagent having a protected functional group said protected functional group capable of being activated to chemically modify the sulfhydrly groups of homocysteine to form modified homocysteine, and
    (3) a second reagent comprising [a ligand] an antibody capable of specifically binding to said modified homocysteine to from an immunocomplex; and
    (4) a third reagent capable of activating said protected alkylating reagent.

(b) measuring the amount of said immunocomplex, the amount thereof being related to the amount of homocysteine in said sample.

Claim 44 (amended). A method of determining the amount of homocysteine in a sample, wherein at least a portion of said homocysteine is in the free disulfide form, comprising the steps of:

(a) preparing an admixture comprising:

(1) said sample,

(2) a releasing agent to release said homocysteine from the disulfide form,

(3) [a protected] an alkylating reagent having a protected functional group said protected functional group capable of being activated to chemically modify the sulfhydrly groups of homocysteine to form modified homocysteine, and

(4) [a receptor] an antibody capable of specifically binding to said modified homocysteine to form an immunocomplex[;], and

(5) an activating reagent capable of deprotecting said protected functional group of said alkylating reagent[.]; and

(b) examining said medium for the amount of said immunocomplex, the amount thereof being related to the amount of homocysteine in said sample.

Please delete claim 46.

REMARKS

Claims 1, 14-16, 19 and 21-30, 32, 33, 37-44 and 46 are in the case. Claims 1, 15, 16, 19, 32, 44 and 46 were rejected under 35 U.S.C. § 112, second paragraph as being indefinite. Claims 1 and 14 were rejected under 35 U.S.C. §102(b,e) as being anticipated by Metzger et al. U.S. Patent No. 5,700,910 (Metzger). Claims 1, 14-16, 19, 21-30, 32, 33, 37-44 and 46 were

Claims (Clean Copy)

Claim 1 (amended). A composition comprising an alkylating reagent having a protected functional group said protected functional group capable of reacting with a nucleophilic group when deprotected wherein the protected functional group is unreactive to a nucleophilic group when in the presence of a nucleophilic group.

Claim 15 (amended). The composition of claim 14, wherein said disulfide reducing agent is a phosphine.

Claim 16 (amended). The composition of claim 15, wherein said phosphine is tris(carboxyethyl) phosphine.

Claim 19 (amended). A kit for use in a method for detecting and determining the amount of homocysteine in a sample, comprising in a packaged combination: a first reagent comprising an alkylating reagent having a protected functional group said protected function group capable of reacting with a nucleophilic group of homocysteine to form modified homocysteine when said protected functional group is deprotected, a second reagent comprising an activating reagent capable of deprotecting said protected alkylating reagent, and a third reagent capable of specifically binding to said modified homocysteine, each in an amount sufficient to conduct at least one assay.

Claim 32 (amended). A method of determining the amount of homocysteine in a sample suspected of containing said homocysteine, comprising the steps of :

(c) bringing together in an aqueous medium:
(5) said sample,
(6) a first reagent comprising an alkylating reagent having a protected functional group said protected

functional group capable of being activated to chemically modify the sulfhydrly groups of homocysteine to form modified homocysteine, and

(7) a second reagent comprising an antibody capable of specifically binding to said modified homocysteine to from an immunocomplex; and

(8) a third reagent capable of activating said protected alkylating reagent.

(d) measuring the amount of said immunocomplex, the amount thereof being related to the amount of homocysteine in said sample.

Claim 44 (amended). A method of determining the amount of homocysteine in a sample, wherein at least a portion of said homocysteine is in the free disulfide form, comprising the steps of:

(c) preparing an admixture comprising:

(6) said sample,

(7) a releasing agent to release said homocysteine from the disulfide form,

(8) an alkylating reagent having a protected functional group said protected functional group capable of being activated to chemically modify the sulfhydrly groups of homocysteine to form modified homocysteine, and

(9) an antibody capable of specifically binding to said modified homocysteine to form an immunocomplex, and

(10) an activating reagent capable of deprotecting said protected functional group of said alkylating reagent; and

(d) examining said medium for the amount of said immunocomplex, the amount thereof being related to the amount of homocysteine in said sample.
